

Abstract

A device includes a planar optical waveguide, as part of a sensor platform, and, connected to the platform directly or by means of a sealing medium, a sealing layer. The sealing layer forms either directly or by means of a sealing medium a tightly sealing layer. The sealing layer includes a multitude of recesses at least open towards the sensor platform, which form a corresponding multitude of sample compartments in a 2-dimensional arrangement. Each of the sample compartments has different biological or biochemical recognition elements, for the specific recognition and binding of different analytes, immobilized in five or more discrete measurement areas, wherein the measurement areas are in optical interaction with excitation light emanating from the optical waveguide, as part of the sensor platform which forms a demarcation of the sample compartments, and wherein the sample compartments are operable to be cleared from received sample or reagent solutions and to then receive, optionally without washing steps, further sample or reagent solutions, which are supplied to the same sample compartments.